

## 5. In th claims:

Please amend the application claim to conform with claims listed bellow:

1 (Currently amended) A drill head capable of attachment to a drilling machine for insertion of rock bolts into rock strata; the drill head comprising;  
a base block including means to facilitate attachment to said drilling machine;  
~~means for driving a spindle having a member at one end which receives a proximal end of a rock bolt including an internal cavity;~~  
~~an injection assembly including at least one internal passage for retaining a grouting compound, wherein, when said rock bolt is inserted in said member and when said injection member engages said member, said at least one passage is in communication with said internal cavity in said rock bolt; whereupon said injection assembly operates to inject a predetermined quantity of said grouting compound into a bolt hole in said rock strata via said internal cavity of said bolt.~~

drive means for rotating a spindle having a member at one end which receives a proximal end of a unitary rock bolt including an internal cavity;  
wherein the bolt rotates in conjunction with the spindle;  
an injection assembly including a plurality of internal passages for retaining and delivering to the rock bolt individual materials of a grouting compound,  
the drill head further comprising passages through which a flushing fluid flows and which are in fluid communication with said internal cavity of said rock bolt;  
wherein, said internal cavity in the rock bolt is in communication with the internal passages of the injection assembly so that when the proximal end of the rock bolt is inserted in the spindle, said injection assembly operates to inject from said internal passages in said injection assembly a predetermined quantity of said individual materials of a grouting compound into a bolt cavity in said rock strata via said internal cavity of said bolt and via a distal end of the bolt.

2 (Original) A drill head according to claim I wherein said spindle is

rotatable and said member which engages said proximal end of said rock bolt comprises a chuck.

3\_(Cancelled)

4 (Cancelled)

5 (Currently amended) A drill head according to claim [[4]] 1 wherein the ~~the~~ injection assembly does not rotate ~~but~~ and is capable of axial extension and retraction ~~independant independent~~ of said spindle to engage and disengage respectively from an opening to said cavity in said rock bolt.

6 (Currently amended) A drill head according to claim 5 wherein, ~~said injection assembly further comprises an~~ injection nozzle which functions as a shut off valve to isolate said flushing fluid from ~~said cavity of~~ said rock bolt.

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7 A drill head according to claim 6-1 wherein ~~at least two of said internal passages are concentric, the injection assembly includes two concentric passages each of which contains a separate grouting material, wherein said passages are disposed so as to keep the grouting materials separate until said materials exit said passages and enter the internal cavity in said rock bolt whereupon they mix to form a grouting resin.~~

8 (Currently amended) A drill head according to claim 7-1 wherein ~~the grouting resin exists the~~ materials pass through an internal cavity of the bolt via a distal end of said bolt and fill a space between an outer surface of the bolt and a wall of a hole in which the bolt is placed.

9 (Original) A drill head according to claim 8 wherein the member for receiving said proximal end of said rock bolt includes a recess which includes a profile which conforms to and engages with a corresponding profile on said proximal end of said bolt to enable mutual rotation of said member with said rock bolt.

10 (Original) A drill head according to claim 9 wherein the profile of said recess is hexagonal and receives a corresponding hexagonal external profile formed in said proximal end of said rock bolt.

11 (Currently amended) A drill head according to claim 10 wherein said said rock bolt is self drilling.

12 (Currently amended) A drill head according to claim 11-1 wherein said injection assembly is capable of movement between a retracted state in which ~~water~~ flushing fluid is capable of entering said cavity of said rock bolt during drilling and an extended state when drilling has ceased in which an end of said injection assembly engages an opening to said cavity thereby allowing the passage of said individual materials of a grouting material compound held in said injection assembly into said bolt hole via said cavity in said bolt

13 (Currently amended) A drill head according to claim 6 1 wherein the grouting materials include is selected from a group consisting of polyester resins, PVA and epoxy resins.

14 (Currently amended) A drill head capable of attachment to a drilling machine for insertion of rock bolts into rock strata; the drill head comprising; a base block including means to facilitate said attachment to said drilling machine; drive means for driving a spindle having a member which engages a proximal end of a rock bolt including having an internal cavity; an injection assembly including at least one internal passage for retaining a grouting material, comprising at least two concentric passages, each of which adapted to contain and deliver separate materials of a grouting compound, wherein, when said rock bolt is inserted in said member, said at least one two passage is are in communication with the internal cavity in said rock bolt; whereupon said injection assembly operates to inject a predetermined quantity of said separate materials of a grouting compound

into said internal cavity of said bolt;

said passages are arranged so as to keep the separate materials of a grouting compound separated, until each of the separate materials exit said passages and enter the internal cavity in said rock bolt whereupon they mix to form a grouting compound prior to exiting from a distal end of said bolt; and,

wherein the drill head further comprises means enabling injection through passages therein of a flushing fluid into a bolt hole cavity to evacuate rock debris from the hole during drilling.

15 (Cancelled)

16 (Currently amended) A drill head according to claim 15-14 wherein the grout exits the internal cavity of the bolt via openings in a distal end and is injected until it fills a space between an outer surface of the bolt and the wall of the hole in which the bolt is placed.

17 (cancelled)

18 (Cancelled)

19 (Currently amended) A drill head capable of attachment to a drilling machine for insertion of a self drilling rock bolt into rock strata; wherein the drill head includes comprises:

an injection assembly adapted to enable injection of a grouting compound from a passage concentric passages in a body of the drill head and into a bolt hole via an internal cavity in said rock bolt which communicates with said passage in said drill head when an end of said bolt engages said drill head such that said passage concentric passages and said internal cavity of the bolt are substantially in alignment.

20 (Currently amended) A self drilling unitary rock bolt for insertion in a rock strata and adapted to engage a drilling head capable of attachment to a drilling machine; wherein the rock bolt comprises; a proximal end and a distal end and an internal cavity therebetween; the proximal end having a mating profile which engages a corresponding profiled member on said drilling machine enabling mutual rotation of said bolt and said member

during insertion of said bolt, the bolt further including at or near said distal end at least one opening in communication with said cavity for discharging a grouting material delivered to said bolt from concentric passages in said drilling head having a common central axis with said internal cavity of said bolt.)

21 (Canceled).

22 (Currently amended) A self drilling rock bolt according to claim 21-20 wherein an opening in said proximal end of said bolt receives ~~at least one the~~ grouting material which advances along said cavity until it exits said bolt via said at least one opening in said distal end.

23 (Currently amended) A self drilling rock bolt according to claim 22 wherein, two grouting materials are discharged from ~~said head mix in said cavity the drilling head into said internal cavity in said bolt prior to exiting via said at least one opening in said distal end such that the two materials mix after exiting said concentric passages.~~

24 (Currently amended) A method of insertion of a self drilling rock bolt in a rock strata using a drilling machine to which is attached a drill head; wherein the method comprises the steps of ;

- a) placing said drilling machine in alignment with a location at which a rock bolt is to be inserted;
- b) taking a rock bolt having an internal cavity;
- c) engaging a proximal end of the rock bolt with a support member on said drill head;
- d) advancing the drill head such that a distal end of the bolt engages rock into which the bolt is to be inserted;
- e) rotating the bolt under the action of drive means associated with said head and maintaining an axial force such that the bolt self drills a hole in said rock strata;
- f) during drilling, flushing the hole via the internal cavity of the bolt with a flushing fluid such as water to remove unwanted rock cuttings;
- g) injecting into said internal cavity separate materials of a grouting

compound from at least one passage concentric passages in said the head, and into the cavity in said bolt the passages having a common axis with the internal cavity of the rock bolt;

- h) allowing said grouting materials to mix to form a grouting compound;
- hi) continuing said injection of said grouting compound at least until said compound exits the internal cavity in said bolt and enters an opening in the bolt hole between the wall of said hole and an exterior surface of said bolt.

25 (Currently amended) A method according to claim 24 comprising the further step; prior to injecting the grouting compound into the cavity in said bolt, of advancing an injection nozzle into sealing engagement with a proximal end of said bolt thereby allowing direct communication between the passage in

said head and the cavity in said bolt .

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26 (Currently amended) A method according to claim 25 wherein said passage is said passage is said passages are in an injection assembly which delivers said grouting material separate materials of a grouting compound.

27 (Currently amended) A method of insertion of a self drilling rock bolt in a rock strata using a drill head capable of attachment to a drilling machine for insertion of a rock bolt into rock strata; wherein the head includes an injection assembly adapted to enable injection of a grouting compound from a passage in the drill head and into a bolt hole via an internal cavity in a rock bolt which communicates with said passage in said drill head when an end of said bolt engages said drill head such that said passage and said internal cavity are substantially in axial alignment; wherein the method comprises the steps of ;

- a) placing said drilling machine in alignment with a location at which a rock bolt is to be inserted;
- b) taking a rock bolt having an internal cavity;
- c) engaging an end of the rock bolt with a member a-on said drill head;
- d) advancing the drill head such that a distal end of the bolt engages rock

into which the bolt is to be inserted;

- e) rotating the bolt under the action of drive means associated with said head and maintaining an axial force such that the bolt self drills a hole in said rock strata;
- f) during drilling, flushing the hole with a flushing fluid such as water to remove unwanted rock cuttings;
- g) injecting a grouting compound from at least one passage in said head and into the cavity in said bolt;
- h) continuing said injection of said compound at least until said compound exits the cavity in said bolt and enters an opening in the bolt hole between the wall of said hole and the exterior of said bolt.

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**28 (Original)** A method according to claim 27 wherein the injection assembly shuts off flushing fluid flow during injection of said grouting material into said cavity in said bolt.

**29 (Canceled)**

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